

Appl. No. 10/049,787
Amdt. dated October 17, 2003
Reply to Office Action of May 20, 2003

REMARKS/ARGUMENTS

Reconsideration of this patent application is respectfully requested in view of the foregoing amendments and the following remarks.

The Examiner has rejected claims 89-92 under 35 U.S.C. 112 second paragraph. Claims 89-91 have been amended to overcome this rejection.

The Examiner has rejected claims 70-77 79-82 85-88 98, 99, 100, 104 and 105 under 35 U.S.C. 103(a) as being unpatentable over Rippey et al in view of U.S. Patent No. 5,805,442 to Crater.

In response to this rejection the applicant has amended claims 70, and 99, and canceled claim 105. Claims 70 and 99 were amended to state that the server and the control and evaluation unit act separately wherein the HTTP server is for relaying information about the welding device while the control and evaluation unit is for using this information to control the welding device. Both of these elements are disposed in a single housing as stated in independent claims 70, and 99. This feature is important because a single device can now be used to both

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control a welding device and relay information relating to the welding device in a reliable manner. As disclosed in Crater, in column 7 lines 45-50 the controller 10 of Crater can act as both a controller of an industrial device and also as a web server. Due to the complicated nature of computer hardware and software, this dual role for a single controller can lead to an increased likelihood for a system failure and increased complexity in design.

In the present invention, as disclosed in claim 70 and shown by way of example in FIG. 2 of the present invention, the server and the control unit are separate elements wherein both are housed in a single housing. With this design, if the control or evaluation unit fails, it can be easily replaced without disrupting the server. In addition, if the server fails, a generic server can be installed without disrupting the control and evaluation unit as well.

Furthermore, there are substantial additional benefits to the design of the present invention. For example, the integration of the server with the welding device makes it possible to access all data parameters and/or operating states of the welding device from anywhere within the computer network, in

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particular, the internet. In contrast, the external coupling of the welding device with a stand alone personal computer, only makes it possible to access that data or those parameters or those operating conditions for which an appropriate data communication or data circuit has been established between the personal computer and the welding device.

The applicant believes that it would not be possible to monitor all data, parameters or operating states by simply using a personal computer in communication with a welding device. According to the present state of the art, the applicant believes that it is not possible to monitor all data, parameters or operating states of the welding device during or after a welding process from any point of the computer network, particularly the internet. By externally coupling a server to the welding device, this limits the accessed welding device to only a portion of the defined data. Therefore, it is not possible to achieve optimal support of the remote welding device. In addition, this external connection of a server to a welding device must be adapted to each different welding device causing a high work costs for the connection of the present welding device with the personal computer.

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Thus, it is only necessary for the user of the welding device of the present invention as claimed in claim 70 to connect the welding device with a data connection or the public telephone network to enable access to all data, parameters or operational states of the welding device from any point on the data network, particularly the internet.

Thus, the applicant believes that these claims as amended are patentable over the above cited references.

For an Examiner to make an obvious type rejection, three criteria must be met 1) there must be some suggestion or motivation to combine the references; 2) there must be a reasonable expectation of success; 3) the prior art references must teach or suggest all of the claim limitations. See MPEP 2143.

The applicant notes that "Before the PTO may combine the disclosures of two or more prior art references in order to establish prima facie obviousness, there must be some suggestion for doing so..." In Re Jones, 958 F.2d 347, 21 U.S.P.Q. 2d 1941 (Fed Cir. 1992), See Also In Re Fine, 837 F.2d 1596, 1598-99 (Fed Cir. 1988). See also MPEP 2143.01 and In re Kotzab, 217

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F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). In Kulzakh the court found that while the control of multiple valves by a single sensor rather than by multiple sensors was a "technologically simple concept," there was no finding "as to the specific understanding or principle within the knowledge of the skilled artisan" that would have provided the motivation to use a single sensor as the system to control more than one valve. 217 F.3d at 1371, 55 USPQ 2d at 1318.

In the present application, the applicant believes that there is no suggestion or motivation to combine the two references and that the combination of these references would even not be possible using hindsight which is also impermissible. For example, while the reference to Rippey et al discloses the broad idea of using a welding unit that is accessible through the internet, Rippey et al does not at all disclose how this device is made or even suggest a particularly preferred type of welding instrument. In addition, Crater discloses using an integrated system for different industrial equipment, such as for power generation, automobile assembly, and oil refining, (column 1 lines 12-13). However a system or process that is conspicuously absent is that of welding or welding control units. Moreover, there is no suggestion for combining a control unit with a server

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in a single housing as claimed in independent claims 70, and 99. Since there is no suggestion or motivation to combine these two references, the applicant believes that the present claims 70-77 79 82 85-88 90, 99, 100, and 104, are patentable over the references cited taken either singly or in combination.

In addition, unlike some other industrial processes such as those listed in *Crater*, welding is particularly complicated due to the high heat, the volatility of the materials used and the uncertainty of the entire process. In addition, other complications such as the presence of magnetic fields could disrupt the use of normally used electronic components. This phenomenon was discussed in the present application in the specification on page 16. Thus, the present application indicated that EEPROM memory might be required for use. New claim 106 in the present invention addresses this issue.

The applicant understands that there must be at least some degree of predictability required to arrive at a conclusion of obviousness. See MPEP 2143.02 and In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976). The applicant believes that because of the complicated nature of the present invention, and the lack of specific disclosure in the Rippey et al reference, there is no

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predictability in the combination between the two references and therefore no reasonable expectation of success.

Regarding the reference to Rippey et al, the Examiner has cited page 3 of the Rippey et al reference for using an "open architecture approach" as described on page 3. However, the fourth paragraph of page 3 in Rippey et al also describes the need for additional study in the future. For example, this paragraph is as follows:

*Possible standards issues within the scope of the testbed include realtime hardware interfaces to robots and power sources, interfaces to sensors, open-architecture controller software programming interfaces (api's) data formats for weld geometry and weld parameters, welding program data including motion and weld parameters. We will **address these issues** in cooperation with industry research partners and AWS and Robotic Industries Association standards committees. ANMS government-industry research activities will **identify standards needs for the near future** and demonstrate new intelligent control systems for the arc welding industry. Current manufacturing application **areas being considered include**, but are not limited to, shipbuilding, automotive and heavy equipment manufacturing and the building construction industry.*

This paragraph on page 3 of the Rippey et al reference indicates that a considerable amount of experimentation is required before settling on a particular technology or a particular design. If the design or invention of Rippey et al

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was at all finalized, then there would be no need to address standard issues with research partners and committees in the future as discussed above.

In addition, the applicant believes that if the design of the present invention was obvious to the team of scientists examining standards for welding machines, there would be no need for future study involving industry research partners and AWS committees described above.

In particular, the applicant believes that it is common for companies conducting research into standards to arrive at patentable inventions. See Rambus, Inc. v. Infineon Techs. AG, 318 F.3d 1081; 65 USPQ2d 1705 (Fed. Cir. 2003).

Thus, the applicant believes that there is a wide array of patentable subject matter between the identification of a need for setting standards such as that described in *Rippey et al* and the arrival at a final result such as with the present invention as claimed in claims 70, 99, and 105.

Furthermore, the applicant believes that the prior art must teach or suggest all of the claim limitations. The Examiner has

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stated that "the artisan of ordinary skill implements the broad teachings of *Riphey et al* to connect a welding system to the internet for monitoring and control purposes, using an open architecture approach it is considered obvious he will use any known networking technique for industrial systems."

However, the applicant believes that *Riphey et al* and *Crater* together do not teach all of the elements of now amended claims 70, and 99. *Riphey et al* does not provide any instruction relating to the structure of the present invention while *Crater* teaches away from this invention. In particular, column 7 lines 45-49 of *Crater* indicate that the controller controlling the welding machine can act also as a server. This is entirely different from the present invention as in claims 70, and 99, which include both a separate controller and a separate server. Thus, the applicant believes that these independent claims, and their associated dependent claims are patentable over the above cited references.

The Examiner has rejected claims 78, and 89-94 under 35 U.S.C. 103(a) as being unpatentable over *Riphey et al* in view of *Crater* as applied above and in further view of U.S. Patent No. 6,002,104 to *Uzu*.

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Claims 78 and 89-94 all depend either directly or indirectly from claim 70 which has been amended. For the reasons stated above, the applicant believes that claims 78 and 89-94 are also patentable because the applicant believes that claim 70 is patentable as well.

The Examiner has rejected claims 83, 84, and 101-103 as being unpatentable over Rippey et al in view of Crater as applied above and in further view of U.S. Patent no. 6,267,291 to *Blankenship*.

The applicant believes that claim 83 as amended is patentable over the above cited rejection. In particular, *Blankenship* is only directed to monitoring the flow of wire using a RFID system. In this case, *Blankenship* is used to primarily monitor the flow of the wire and secondarily used to control welding process parameters as described in the last paragraph in column 9.

However, *Blankenship* does not describe a system that is used to control the following information:

data relating to components susceptible to wear, a position

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of a contact sleeve, a position of a gas nozzle

This information is listed in claim 83 and is the type of information that is not listed in Blankenship. Therefore, the applicant believes that claim 83 and claim 84 which depends from claim 83 are both patentable over the above cited references.

In addition, claim 101 has also been amended to state a process that includes the above identified information. Therefore the applicant believes that claims 101-103 are patentable over the above cited references.

The Examiner has rejected claims 95-97 as being unpatentable over Rippey *et al* in view of Crater and in further view of Ohmi. The applicant believes that based upon the amendment to claim 70 and the above stated reasons, claim 70 should be patentable over Rippey *et al* and Crater and therefore claims 95-97 which depend from claim 70 should be patentable as well. Therefore, early allowance of the remaining claims is respectfully requested.

Claims 70-104 and 106-108 remain in the application. Claims 70, 83, 89-91, 99, and 101 have been amended. Claim 105 has been canceled and claims 106-108 have been added. The applicant


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believes that the remaining claims are patentable over the above cited rejections and references taken either singly or in combination. Accordingly, early allowance of the remaining claims is respectfully requested.

The Commissioner is hereby authorized to charge \$54.00 for three additional claims and any additionally required fee, or to credit any overpayment, to our Deposit Account No. 03-2468.

Respectfully submitted,

FRANZ NIEDEREDER ET AL



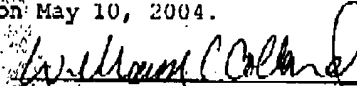
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I hereby certify that this correspondence is being sent by facsimile transmission to the U.S.P.T.O. to Patent Examiner C.C. SHAW at Group No. 1725, to 1-703-872-9311 on May 10, 2004.


William C. Collard

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